

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and lists of claims in the application:

Claims 1-6 (Cancelled)

Claim 7 (Currently Amended) A method for differentiating progenitor cells into cholinergic neurons in a patient ~~[in need of same]~~ comprising administering ~~[to said patient a pharmaceutical composition comprising an amount of]~~ BMP-9 in a pharmaceutically acceptable vehicle in an amount sufficient to induce differentiation of progenitor cells into cholinergic neurons.

Claim 8 (Cancelled)

Claim 9 (Currently Amended) A method for treating a patient with degenerating cholinergic neurons ~~[in a patient in need of same]~~ comprising administering ~~[to said patient a pharmaceutical composition comprising an amount of]~~ BMP-9 in a pharmaceutically acceptable vehicle in an amount sufficient to induce differentiation of progenitor cells into cholinergic neurons.

Claim 10 (Cancelled)

Claim 11 (Currently Amended) A method for upregulating the expression of ~~[genes for]~~ choline acetyltransferase genes in a patient ~~[in need of same]~~ comprising administering ~~[a pharmaceutical composition comprising an amount of a]~~ BMP-9 protein in a pharmaceutically acceptable vehicle in an amount sufficient to upregulate the ~~[genes for]~~ choline acetyltransferase genes in said patient.

Claim 12 (Currently Amended) A method for upregulating vesicular acetylcholine transporter in a patient ~~[in need of same]~~ comprising administering ~~[a pharmaceutical composition comprising an amount of a]~~ BMP-9 protein in a pharmaceutically acceptable vehicle in an amount sufficient to upregulate vesicular acetylcholine transporter in said patient.

Claim 13 (Cancelled)

Claim 14 (Currently Amended) A method for treating a patient with degenerating motor neurons ~~[in a patient in need of same]~~ comprising administering ~~[to said patient an amount of]~~ a BMP-9 composition ~~[in an amount]~~ sufficient to prevent degeneration of motor neurons in said patient.

Claims 15-16 (Cancelled)

Claim 17 (Currently Amended) A method for treating a patient with malfunctioning cholinergic neurons ~~[in a patient in need of same]~~ comprising administering ~~[to said patient a pharmaceutical composition comprising an amount of]~~ BMP-9 in a pharmaceutically acceptable vehicle in an amount sufficient to induce differentiation of progenitor cells into cholinergic neurons in said patient.

Claim 18 (New) A method for preventing brain function and/or memory loss in a patient comprising administering BMP-9 in a pharmaceutically acceptable vehicle in an amount sufficient to induce differentiation of progenitor cells into cholinergic neurons in said patient.